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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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EXAMINER
EDELMAN, B

ART UNIT	PAPER NUMBER
2153	22

DATE MAILED:

10/24/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>09 August 2001</u>.

2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☐ Claim(s) <u>23-25, 27-31 and 33-39</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☐ Claim(s) <u>23-25, 27-31 and 33-39</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .

4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____

DETAILED ACTION

This action is in response to Applicant's amendment and request for

reconsideration filed on August 9, 2001. Claims 23-25, 27-31, and 33-39 are presented

for further examination.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1.   Claims 23-25, 27, 28, 31, 34-36, 38, and 39 are rejected under 35 U.S.C. 103(a)

as being unpatentable over Cave et al. (U.S. Patent No. 5,943,046, hereinafter "Cave").

In considering claim 23, Cave discloses a computer apparatus for allocating

communication bandwidth, comprising a server (104) configured to allocate

communications bandwidth to a plurality of user stations (102) over a communications

interface (103) based on at least one set of priorities, the priorities being based on type

of information being retrieved by user stations from the server (col. 7, lines 19-24; col. 8,

lines 53-55, 64-67).

Although the system taught by Cave does not explicitly disclose the use of a bus

connecting the client stations to the server, the use of a bus is a well known network

standard. It would have been obvious to a person having ordinary skill in the art to use

a bus to connect the clients to the server disclosed in the system taught by Cave, because buses provide a reliable, high-bandwidth communication medium for local area networks.

In considering claim 24, Cave discloses a computer apparatus for allocating communication bandwidth, comprising a server (104) configured to allocate communications bandwidth to a plurality of user stations (102) over a communications interface (103) based on at least one set of priorities, the priorities being based on how fast user connections can receive information (col. 7, lines 19-24; col. 8, lines 53-55; col. 9, lines 9-12, wherein it is stated that bandwidth utilized depends on the available bandwidth of the user modem [or other connection means, see col. 6, lines 8-15]).

Although the system taught by Cave does not explicitly disclose the use of a bus connecting the client stations to the server, the use of a bus is a well known network standard. It would have been obvious to a person having ordinary skill in the art to use a bus to connect the clients to the server disclosed in the system taught by Cave, because buses provide a reliable, high-bandwidth communication medium for local area networks.

In considering claim 25, Cave discloses a computer apparatus for allocating communication bandwidth, comprising a server (104) configured to allocate communications bandwidth to a plurality of user stations (102) over a communications interface (103) based on at least one set of priorities, the priorities being based on

which part of a document is being transmitted (col. 7, lines 19-24; col. 8, lines 53-55; col. 9, lines 12-13, wherein it is stated that higher priority image objects [within a specified document] will be allocated greater bandwidth).

Although the system taught by Cave does not explicitly disclose the use of a bus connecting the client stations to the server, the use of a bus is a well known network standard. It would have been obvious to a person having ordinary skill in the art to use a bus to connect the clients to the server disclosed in the system taught by Cave, because buses provide a reliable, high-bandwidth communication medium for local area networks.

In considering claim 27, although the system taught by Cave teaches substantial features of the claimed invention, it fails to explicitly disclose the at least one set of priorities comprising priorities based on a stored indicator indicating importance of a document being retrieved by a user station. Nonetheless, Cave does describe allocating bandwidth according priorities based on individual *objects* within a document (col. 9, lines 9-13). Such priorities would inherently be based on some sort of indicator. It thus would have been obvious to a person having ordinary skill in the art to include an additional prioritization function in the system taught by Cave based on importance of entire requested *documents* so that the most important documents can be downloaded fastest in case of a potential connection failure.

In considering claim 28, as understood, Cave further discloses that the priorities are based on the state of application processes running on a processor (i.e. buffers within processor/memory 106; col. 9, line 57 – col. 10, line 6).

Claims 31, 36, 38, and 39 are disclosed in the same sections of the Cave reference as cited in claims 23, 24, 25, or 27, and are rejected for the same reasons as stated above.

In considering claim 34, Cave further discloses recalculating the bandwidth on an event driven basis (i.e. dynamic allocation, col. 9, lines 22-26).

In considering claim 35, Cave further discloses that events triggering recalculation include at least one of: arrival of a new request for retrieval, finishing sending information in response to a retrieval request, cancellation of a retrieval request, detection of the inability of a user connection to use all of the bandwidth allocated to it, a change or priority, and timeout of a timer (col. 9, lines 25-42; col. 9, line 64 – col. 10, line 6).

Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cave, in view of Chen et al. (Threshold-Based Admission Control Policies for Multimedia Servers; The Computer Journal, Vol. 39, No. 9, 1996, hereinafter "Chen").

In considering claim 33, although the system taught by Cave teaches substantial features of the claimed invention, it fails to disclose allocating bandwidth according to a ratio of the priority that a user connection bears to the sum of priorities of all user connections (col. 5, last paragraph). Nonetheless, such an allocation scheme is well known in the bandwidth allocation art, as evidenced by Chen. In a similar art, Chen describes a system for allocating bandwidth among processes in a server, wherein the bandwidth is allocated according to a ratio of the priority that a user connection bears to the sum of priorities of all user connections (col. 5, last paragraph). Thus, given the teaching of Chen, a person having ordinary skill in the art would have readily recognized the desirability and advantages of using the priority ratio disclosed by Chen in the system taught by Cave, in order to allocate a fair and equitable amount of resources to each requesting user. Therefore, it would have been obvious to use the priority ratio disclosed by Chen in the system taught by Cave.

Claims 29, 30, and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cave, in view of Waldron, III (U.S. Patent No. 5,428,789, hereinafter "Waldron").

In considering claim 29, although the system taught by Cave teaches substantial features of the claimed invention, it fails to disclose the state of application processes comprising the foreground or background state of a process. Nonetheless, setting a priority among running processes according to a foreground or background state of the processes is well known, as evidenced by Waldron. In a similar art, Waldron discloses

a system for running multiple processes at a user computer, wherein processing priority

is given to processes running in the foreground (col. 2, lines 29-39). Given the teaching

of Waldron, a person having ordinary skill in the art would have readily recognized the

desirability and advantages of prioritizing bandwidth allocation in the system taught by

Cave according to the foreground or background state of application processes, as

taught by Waldron, so that the currently viewed application can be run or downloaded

most quickly. Therefore, it would have been obvious to use the foreground or

background priority system taught by Waldron in the system taught by Cave.

In considering claim 30, although the system taught by Cave teaches substantial

features of the claimed invention, it fails to disclose the state of application processes

comprising a degree to which a window in which a process is running is ready for use

by a user. Nonetheless, setting a priority among running processes according to a

degree of readiness for use by a user (i.e. whether the process is in a foreground or

background state) is well known, as evidenced by Waldron. In a similar art, Waldron

discloses a system for running multiple processes at a user computer, wherein

processing priority is given to processes running in the foreground (i.e. the processes

which are most ready for use by a user, col. 2, lines 29-39). Given the teaching of

Waldron, a person having ordinary skill in the art would have readily recognized the

desirability and advantages of prioritizing bandwidth allocation in the system taught by

Cave according to the degree of readiness for use of application processes, as taught

by Waldron, so that the currently viewed and thus most usable application can be run or

downloaded most quickly. Therefore, it would have been obvious to use the degree of use priority system taught by Waldron in the system taught by Cave.

In considering claim 37, although the system taught by Cave teaches substantial features of the claimed invention, it fails to disclose that the priorities are based on the state of application processes running on the processor. Nonetheless, prioritization schemes based on the state of application processes running on a processor are well known, as evidenced by Waldron. In a similar art, Waldron discloses a system for running multiple processes at a user computer, wherein processing priority is based on the state of an application process running at the computer (i.e. the processes which are most ready for use by a user, col. 2, lines 29-39). Thus, given the teaching of Waldron, a person having ordinary skill in the art would have readily recognized the desirability and advantages of prioritizing bandwidth allocation in the system taught by Cave according to the state of application processes, as taught by Waldron, so that the currently viewed and thus most usable application can be run or downloaded most quickly. Therefore, it would have been obvious to use the state of application process priority system taught by Waldron in the system taught by Cave.

Response to Arguments

Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

In considering Applicant's arguments with respect to the Waldron reference, Applicant argues that Waldron does not suggest at least allocating bandwidth based on stored incidia indicating importance of a document being retrieved. In response to this argument, note that Examiner did not assert this in the previous office action. Furthermore, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Cave discloses various priority schemes for use in bandwidth allocation. Waldron also discloses a priority scheme, wherein specific processes are given higher priority than others. Given the teaching of Waldron, a person of ordinary skill in the art who desires to create a prioritized bandwidth allocation system, such as the one taught by Cave, would readily recognize the desirability and advantages of prioritizing bandwidth allocation according specific application processes, as suggested by Waldron, because certain processes may be more important than others. Thus, providing the most important processes with the most bandwidth would allow for optimal system performance.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bradley Edelman whose telephone number is (703) 306-

3041. The examiner can normally be reached on Monday to Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glen Burgess can be reached on (703) 305-4792. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-7201.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-3900.

Dung C. Dinh
Primary Examiner

BE
October 10, 2001